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## **Introduction**

The goal of this grant was to gain insight into the molecular basis of prostate cancer. Preliminary evidence suggested that the *taci* gene is expressed in normal prostate tissues, but not in prostate tumor cells. We had proposed the APRIL provides a proliferative signal to normal prostate epithelial cells by means of an unknown receptor.

## **Body**

To determine the role of APRIL and TACI in prostate tumor growth, we cultured LNCaP, PC3 and DU145 prostate cancer cell lines and titrated the effects of recombinant APRIL and TACI-Ig on cell growth as determined by MTT assay, DNA content of cells and Annexin V binding assays;

## **Reportable Outcomes**

- (a) According to our hypothesis we anticipated that the addition of recombinant APRIL would enhance cell growth whereas the addition of TACI-IL would either reduce cell growth or induce apoptosis. This did not happen and for all four cell lines tested we did not see any significant changes in relative cell number (as determined by MTT reduction), nor did we see any significant changes in the relative numbers of hyperdiploid cells as determined by propidium iodide flow cytometry. These experiments were repeated several times with similar results. To overcome the possibility that the cells were already maximally stimulated in the presence of fetal calf serum, we repeated the MTT experiments in either serum-free conditions, or in medium with 1% fetal calf serum. Although the MTT values were reduced overall, there was no significant difference observed when titrating in either APRIL or TACI-Ig. We included the titration with BAFF since it is also a TACI ligand, but similar negative results were obtained with this cytokine. When performing the apoptosis assays with propidium iodide and annexin V staining, we encountered a pitfall in that we were not able to separate the cells from the monolayer into individual cells for flow cytometry using EDTA or trypsin without affecting the viability of the cells (and thereby propidium iodide staining). Overall these types of experiments were not very reproducible and were therefore abandoned as unreliable.

## **Conclusions**

We will not perform the experiments to determine the effect of systemic TACI-Ig administration on the growth of LNCaP cells in nude mice because of our negative results. We will continue to look at growth characteristics in the presence of doxycycline when compared with the parental cell lines.

**References: None**

**Appendices: None**